IN THE DRAWINGS:

Please replace the drawings in this application with the attached drawings.

REMARKS

Claims 1-39 are in the case and presented for consideration.

Drawings

Applicants have amended Figs. 1, 3, 4a, 5a, 5b, and 5c as suggested by the Examiner. It is believed that Figs. 1, 3, 4a, 5a, 5b, and 5c no longer contain the issues raised by the Examiner. Withdrawal of the objections with respect to Figs. 1, 3, 4a, 5a, 5b, and 5c is respectfully requested.

35 U.S.C. § 101

Claims 1-18 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The claims have been rewritten to overcome the Examiner's § 101 rejection and are believed to have addressed the issues raised by the Examiner. Withdrawal of the rejection with respect to claims 1-18 is respectfully requested.

35 U.S.C. § 102(b)

Claims 1-3, 5, 16, 30, and 31 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,621,454 to Ellis, et al. (hereinafter referred to as "Ellis").

Regarding claim 1, the examiner states:

> Ellis discloses... performing the algorithm (figure 12) at least once to detect the predetermined content in the media information stream, while employing a respective set of parameters in the algorithm for each performance thereof (Col. 34, lines 35-53) [, and]... automatically evolving at least one respective set of parameters employed in the algorithm to maximize the degree of accuracy at which the algorithm detects the predetermined content in the media information stream (Col. 34, lines 42-53 and Col . 38, lines 14-30). Particularly Ellis discloses the various rules are stored permitting future modifications, which read on "evolving at least one respective set of parameters employed in the algorithm."

See pages 5-6 of the April 19, 2006 Office Action.

In response, Applicants respectfully traverse the Examiner's above-noted rejection.

Claim 1 has been amended to better define the claimed invention, and to overcome the above-noted rejection. In particular, claim 1 has been amended to recite, as follows:

> A method for detecting predetermined content in a media information stream, comprising:
>
> providing an algorithm for detecting predetermined content in the media information stream, the algorithm being a function of a set of parameters;
>
> performing the algorithm at least once to detect the predetermined content in the media information stream, while employing a respective set of parameters in the algorithm for each performance thereof;
>
> automatically evolving at least one respective set of parameters employed in the algorithm to maximize the degree of accuracy at which the algorithm detects the predetermined content in the media information stream;
>
> repeating the performing and evolving step until the at least one respective set of parameters employed in the algorithm is optimized; and
>
> implementing in a machine the algorithm with at least one respective set of the optimized parameters to detect predetermined content in the media information stream with an acceptable degree of accuracy.

Contrary to the Examiner's interpretation, Ellis fails to disclose or suggest the above-underlined features.

Ellis, as read by Applicants, teaches splitting an identified (main) segment into different possible subdivisions or groupings (of sub-segments) based on accepted nominal lengths for segments of interest (col. 37, lines 62-64; Fig. 15). The accepted nominal lengths are derived from standard lengths of commercials encountered in broadcast (Ellis, col. 32, lines 13-15), with some commercial lengths occurring more frequently than others (Ellis, col. 32, line 15-16). Each possible way of splitting a given (main) segment is evaluated in accordance with a set of predetermined rules to determine the acceptable splits (Ellis, col. 38, lines 9-13). The rules for dividing segments found to be potential new segments of interest into segments which are more likely to be segments of interest or

segments which are less likely to be segments of interest are enumerated on col. 40, lines 13-56 (of Ellis).

Ellis fails to teach, among other patentable features, "**automatically** evolving at least one respective set of parameters employed in the algorithm to maximize the degree of accuracy at which the algorithm detects the predetermined content in the media information stream". While Ellis suggests the possibility of "future modifications" to the rules, it does not teach or suggest that any of the conditions outlined on col. 40, lines 13-56 (of Ellis), can be ***automatically*** updated.

Accordingly, Applicants maintain the claim 1 recites patentable subject matter, and therefore, withdrawal of the rejection with respect to claim 1 is respectfully requested.

Claims 2, 3, 5 and 16 depend from claim 1, and therefore include the features of claim 1. Claims 30 and 31 also contain the features of claim 1. Accordingly, for the same reasons given above for claim 1, claims 2, 3, 6, 16, 30 and 31 also contain patentable subject matter, and therefore, withdrawal of the rejection with respect to claims 2, 3, 6, 16, 30 and 31 is respectfully requested.

35 U.S.C. § 103(a)

Claims 4, 6-15, 17-18, and 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ellis in view of U.S. Patent 6,957,200 to Buczak, et al. (hereinafter referred to as "Buczak").

Regarding claim 4, the Examiner states:

> Ellis fails to explicitly disclose... the step of automatically evolving includes performing a genetic algorithm to evolve at least one respective set of parameters. In an analogous art, Buczak disclose automatically evolving includes performing a genetic algorithm (figure 4) to evolve the at least one respective set of parameters (Col. 6, lines 48-65).

The Examiner states as motivation, that:

> it would have been obvious... to modify Ellis with the teaching of Buczak in order to facilitate automatically evolving includes performing a genetic algorithm to evolve at least one respective set of parameters for the benefit of using a search algorithm based on natural selection to narrow the individuals that can be seen as candidate solutions to the problem being solved (Buczak – Col. 4, line 64 – Col. 5, line 7).

Applicants respectfully traverse the above-noted rejection. The cited references fail to disclose or suggest "automatically performing a genetic algorithm to evolve the at least one respective set of parameters" employed in an algorithm for detecting predetermined content in the media information stream in order to optimize the algorithm (see claims 1 and 4).

To establish a *prima facie* case of obviousness, the initial burden is on the Examiner to show that there is suggestion or motivation in the reference for modifying or combining the teachings of the reference. See, e.g., MPEP § 2142. It is inappropriate to use applicant's disclosure as a blueprint (or to use hindsight based on knowledge obtained from application's patent disclosure) to reconstruct the claimed invention from selected pieces of prior art absent some suggestion, teaching, or motivation in the prior art to do so. See, e.g., Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051-52, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988); In re Warner, 379 F.2d 1011,1017, 154 USPQ 173, 177 (CCPA 1967), cert. denied, 389 U.S. 1057(1968); In re Rouffet, 149 F.3d 1350, 1357 (Fed. Cir. 1998) ("In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.").

See also the recent Federal Circuit case of ***In re Kahn***, Fed. Cir. No. 04-1616,

March 22, 2006. See full text at http://pub.bna.com/ptcj/041616Mar22.pdf. This case reiterates the requirement at for any obviousness rejection based on a combination of references, the rejection must **articulate the motivation** for combining the references.

As discussed previously, Ellis uses a set of predetermined rules to divide segments which are likely to be segments of interest and segments which are less likely to be segments of interest. These rules are specifically adapted for evaluating the acceptability of the various possible subdivisions or grouping of an identified (main) segment.

As acknowledged by the Examiner (at page 9, last paragraph, of the Office Action), genetic algorithms are used when the genetic pool of a given population potentially contains the solution, or a better solution, to a given adaptive problem. However, the genetic combination that will produce the solution is distributed among several individuals who are seen as candidate solutions. Only the genetic recombination of the chromosomes from different individuals, e.g., "fittest of the previous generation", can lead to the solution. See Buczak, col. 4, line 64, to col. 5, line 7.

Since Ellis explicitly teaches that each of the conditions outlined on col. 40, lines 17-54, *equally* represents the actual solutions (not candidate solutions) for determining the acceptability of the possible splits (see Ellis, col. 40, lines 15-16, stating that "a new segment is assigned a capture level 2 *if it satisfies one of the following conditions*..."), the cited references fail to provide any motivation, absent hindsight knowledge obtained from Applicants' disclosure, to employ genetic algorithm to search for other solutions. Creating a new set of rules using predetermined rules that allow the acceptance of more segments as segments of interest, would be contrary to the purpose and usage of genetic algorithms, which are used for finding a solution dispersed among the "fittest" individuals (rules) in a given population and for situations where the solution can only be obtained by recombining

the "genes" from the "fittest" of those individuals (rules). In this case, given that a number of equally optimized rules are already taught by Ellis, and are all designed to increase the matching accuracy of the overall system (Ellis, col. 41, line 25), and given that the criteria for each rule is clearly defined (Ellis, col. 40, lines 17-54), those skilled in the art appraised of Ellis and Buczak would not be motivated to perform genetic recombination on the predetermined rules that already meet the "defined fitness criteria".

Accordingly, claims 4, 6-15, 17-18, and 29 cannot be obvious because Ellis and Buczak fail to provide any motivation for combining the cited references. Withdrawal of the rejection with respect to claims 4, 6-15, 17-18, and 29 is therefore respectfully requested.

Claims 19-29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,577,346 to Perlman in view of Buczak.

In response, Applicants respectfully traverse the above-note rejection.

Perlman matches stored image patterns with image patterns found in a video segment (Perlman, col. 7, lines 17-21). Patterns for correlating with image patterns found in a video segment may be stored in a table (Perlman, col. 7, line 20). Pattern entries in a table may be provided by a video segment producer or by third parties who determine unique identifying patterns in a video segment (Perlman, col. 7, lines 56-67). Information relating to ***known commercials and known patterns*** may be stored in a set-top box (Perlman, col. 8, lines 3-8). Patterns may also be created by management devices if the ***commercial is known*** (Perlman, col. 8, lines 9-11).

Therefore, Perlman teaches that each pattern is derived from a specific or known video segment (Perlman, col. 7, line 56, to col. 8, line 15), and that each pattern is designed to ***accurately identify*** the expected commercial or video segment from which it is derived "so that the management unit 102 might, for example, transmit a Web page

request corresponding to the product advertised..." (Perlman, col. 7, lines 33-36). As such, those skilled in the art would not be motivated to use a genetic algorithm to alter the stored patterns because Perlman teaches that a match can be found simply by comparing the stored patterns with the recognized patterns, without the need for any further modifications to the stored patterns once they have been created.

Those skilled in the art would also not be motivated to use a genetic algorithm since Perlman suggests that optimized patterns are created to ensure accurate commercial matching for product identification or ordering (see Perlman, col. 7, lines 59-64, stating that:

> "commercial producer may have an incentive to publicize distinct patterns related to their commercial since this would allow identification. This identification might allow potential customers that have a particular interest in the product to access a corresponding Web page and potentially place an order...").

In this situation, Buczak teaches that performing genetic recombination on a pattern that meets the defined (optimal) criteria (e.g., accurately identifying the corresponding commercial) would not produce an "offspring" pattern that is better than the parents (see Buczak, col. 6, lines 23-25, stating that "[i]f the population meets the convergence criteria, this is considered the optimal population...").

Furthermore, Perlman does not teach or suggest storing a population of "patterns" for each particular commercial or video segment. Therefore, those skilled in the art would not be able to perform genetic recombination, even if possible, without genetic materials from different parents (i.e., "stored patterns") to create a new generation of "offspring" stored patterns.

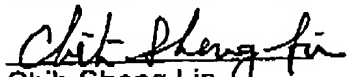
Accordingly, it is respectfully submitted that claims 19-29 are allowable, and allowance thereof is respectfully requested.

No new matter has been added.

If any issues remain, the Examiner is respectfully invited to contact the undersigned to advance the application to allowance.

Favorable action is respectfully requested.

Respectfully submitted,



Chih-Sheng Lin
Reg. No. 56,402
Attorney for Applicants
ph. (845) 359-7700

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NOTARO & MICHALOS P.C.
100 Dutch Hill Road, Suite 110
Orangeburg, New York 10962-2100

Customer No. 21706

Mail all correspondence to:
Yan Glickberg, Registration No. 51,742
US PHILIPS CORPORATION
P.O. Box 3001
Briarcliff Manor, NY 10510-8001
Phone: (914) 333-9618
Fax: (914) 332-0615

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